IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors:	Chirag D. Dalal; Ronald S. Karr
Assignee:	Veritas Operating Corporation
Title:	USING A SINGLE ALLOCATOR TO COORDINATE VOLUME TRANSFORMATIONS ACROSS VIRTUALIZATION LAYERS

Application No.:	10/790,656	Filing Date:	March 1, 2004
Examiner:	Zhuo H. Li	Group Art Unit:	2185
Docket No.:	VRT0126US	Confirmation No.:	9561

Austin, Texas
July 7, 2008

Mail Stop: Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
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APPEAL BRIEF

Dear Sir:

This brief is submitted in support of the Notice of Appeal filed on May 6, 2008 by the Appellants to the Board of Patent Appeals and Interferences from the Examiner's final rejection of claims 1-21. The appellant notes that the appeal filed May 6, 2008 was received by the USPTO, thereby giving the appellant a period for filing set to expire on Monday, July 7, 2008 since the due date of July 6, 2008 falls on a Sunday.

Please charge deposit account No. 502306 for the fee of $510.00 associated with this Appeal Brief. Please charge this deposit account for any additional sums which may be required to be paid as part of this appeal.

REAL PARTY IN INTEREST

The real party in interest on this appeal is Symantec Operating Corporation.

RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences related to this application.

STATUS OF CLAIMS

Claims 1-21 were originally presented. Claims 1-21 are pending. Claims 1-21 stand rejected. Appeal is for claims 1-21.

STATUS OF AMENDMENTS

All amendments have been previously entered. Claims stand as given in the Claim Appendix.

SUMMARY OF CLAIMED SUBJECT MATTER

The invention is as set forth in the claims. To summarize the invention without intending to limit or otherwise affect the scope of the claims, the invention described in each of the independent claims is described below with reference to citations to the specification, which serve as examples only.

The invention as set forth by independent claim 1 relates to a method comprising: a computer system creating a first storage object, wherein the first storage object is created to have a property; the computer system creating a second storage object, wherein the second storage object comprises a component storage object; the computer system choosing the first storage object to be the component storage object due to the property of the first storage object; the computer system modifying the first storage object, wherein the modified first storage object maintains the property. See the SUMMARY OF THE INVENTION between ¶¶ [0016] and [0017] of the specification. *See also* ¶¶ [0024] to [0031] of the specification.

The invention as set forth by independent claim 8 relates to a method comprising:

a computer system creating one or more first storage objects, wherein the one or more first storage objects are created to have individual or collective properties; the computer system creating a second storage object out of the one or more first storage objects, wherein the second storage object depends on the individual or collective properties of the one or more first storage objects; the computer system receiving information that at least one of the individual or collective properties of the one or more first storage objects has changed and that the second storage object can no longer depend on the individual or collective properties of the one or more first storage objects; the computer system responding after receiving the information. See the SUMMARY OF THE INVENTION between ¶¶ [0016] and [0017] of the specification. *See also* ¶¶ [0024] to [0031] of the specification.

The invention as set forth by independent claim 12 relates to a computer readable medium storing instructions executable by a computer system, wherein the computer system implements a method in response to executing the instructions, the method comprising: creating a first storage object, wherein the first storage object is created to have a property; creating a second storage object out of the first storage object, wherein the second storage object depends on the property of the first storage object; modifying the first storage object, wherein the modified first storage object maintains the property upon which the second storage object depends. See the SUMMARY OF THE INVENTION between ¶¶ [0016] and [0017] of the specification. *See also* ¶¶ [0024] to [0031] of the specification.

The invention as set forth by independent claim 19 relates to a computer readable medium storing instructions executable by a computer system, wherein the computer system implements a method in response to executing the instructions, the method comprising: creating a plurality of first storage objects, wherein the plurality of first storage objects are created to have individual or collective properties; creating a second storage object, wherein the second storage object comprises a component storage object; choosing the plurality of first storage objects to be the component storage object due to the individual or collective properties; modifying one or more of the plurality of first storage objects, wherein the modified storage objects maintain the individual or collective properties. See the SUMMARY OF THE INVENTION between ¶¶ [0016] and [0017] of the specification. *See also* ¶¶ [0024] to [0031] of the specification.

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The invention as set forth by independent claim 20 relates to a data system comprising: a computer system in data communication with first and second computer systems, wherein the computer system comprises an instruction memory that stores instructions executable by the computer system, wherein the computer system implements a method in response to executing the instructions, the method comprising: creating a first storage object, wherein the first storage object is created to have a property; creating a second storage object, wherein the second storage object comprises a component storage object; choosing the first storage object to be the component storage object due to the property of the first storage object; modifying the first storage object, wherein the modified first storage object maintains the property. See the SUMMARY OF THE INVENTION between ¶¶ [0016] and [0017] of the specification. *See also* ¶¶ [0024] to [0031] of the specification.

The invention as set forth by independent claim 21 relates to a data system comprising: means for creating a first storage object, wherein the first storage object is created to have a property (*see* Allocator 130, FIG. 3., and ¶ [0027]); means for creating a second storage object, wherein the second storage object comprises a component storage object (*see* Allocator 130, FIG. 3., and ¶ [0027]); means for choosing the first storage object to be the component storage object due to the property of the first storage object (*see* Allocator 130, FIG. 3., and ¶ [0027]); means for modifying the first storage object, wherein the modified first storage object maintains the property (*see* Allocator 130, FIG. 3., and ¶¶ [0027], [0034]).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The Final Office Action, dated February 2, 2008, rejects claims 8-11 under 35 U.S.C. §102(e) as purportedly being anticipated by U.S. Patent No. 5,946,696 issued to Young ("Young"). *See* Final Office Action, p. 2. Appellants traverse this rejection on (1) the grounds that a person having ordinary skill in the art would fail to understand Young's "text box displayed on a video display" as a storage object, and (2) on the grounds that the interpretation of Young offered by the Final Office Action leads to a logical inconsistency.

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The Final Office Action rejects claims 1-5, 12-16, and 19-21 under 35 U.S.C. §103(a) as purportedly being unpatentable over U.S. Patent No. 6,826,600 issued to Russell ("Russell") in view of U.S. Patent No. 6,065,011 issued to Bulusu et al. ("Bulusu"). *See* Final Office Action, pp. 3-5. Appellants traverse this rejection on the grounds that the proposed modification of Russell would change Russell's principle of operation.

The Final Office Action rejects the remaining pending claims, claims 6-7 and 17-18, under 35 U.S.C. §103(a) as purportedly being unpatentable over U.S. Patent No. 6,826,600 issued to Russell ("Russell") in view of U.S. Patent No. 6,065,011 issued to Bulusu et al. ("Bulusu"), and further in view of U.S. Patent Application No. 2003/0229698 issued to Furuhashi et al. ("Furuhashi"). *See* Final Office Action, p. 7. Appellants respectfully traverse this rejection on the grounds that claims 6-7 and 17-18 are dependent upon allowable base claims 1 and 12, respectively.

ARGUMENT

Rejection of Claims under 35 U.S.C. § 102

Claims 8-11

Claims 8-11 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,946,696 issued to Young ("Young"). *See* Final Office Action, p. 2. Appellants traverse this rejection.

Cited Objects are not Storage Objects

Regarding claim 8, the Final Office Action asserts that

> Young discloses a method comprising a computer system (200, figure 2) creating a first storage object (original object 100, figure 1A), wherein the first storage object is created to have a individual or collective properties (120, figure 1E and col. 3 lines 32-38, i.e., unmodified properties of object 100 including border, border size, font, text size, text justification and style)..."

See Final Office Action, pp. 2-3. Thus, the Final Office Action equates Young's original object 100, as shown in FIG. 1A, with the first storage object of claim 8. However original object 100 is not a storage object. Young states that original object 100 "is a text box displayed on a video display by a computer program." *See* Young 3:14-20. A person having ordinary skill in the art at the time of invention would not understand a text box

displayed on a video display to be a storage object. A person having ordinary skill in the art would, for example, recognize hard disks, JBOD storage systems, RAID storage systems, data mirrors, etc. as storage objects.

In response to this argument the Final Office Action (pp. 8-9) and the Advisory Action (dated April 22, 2008) (p. 2) assert that the claimed language needs to specifically define the term "storage object." Appellants assert that this is incorrect since Appellants rely upon the meaning a person having ordinary skill in the art would place upon the term. In addition, the Advisory Action seems to display a misunderstanding of the term "storage object." The Advisory Action asserts that "any object *being stored* in a memory can broadly read as a storage object." *See* Advisory Action, p. 2. (Emphasis Added.) As understood by a person having ordinary skill in the art, a storage object is not an object that is stored (which may be denoted a "stored object"), rather it is an object that, among other things, serves to store.

Thus, for at least the reason that Young's original object 100 fails to be a storage object, Appellants respectfully request the withdrawal of the rejection against claim 8. Since claims 9-11 are dependent upon claim 8, Appellants further request the withdrawal of the rejection against claims 9-11.

Interpretation of Young Leads to a Logical Inconsistency

However, even if Young did teach creating a first storage object, it follows from the interpretation of Young asserted by the Final Office Action that the cited sections of Young cannot, in a *logically consistent* manner, teach both (1) the limitation of claim 8 that the "second storage object depends on the individual or collective properties of the one or more first storage objects" and (2) the limitation of claim 8 "that the second storage object can no longer depend on the individual or collective properties of the one or more first storage objects."

The Final Office Action asserts that Young discloses

> ...the computer system creating a second storage object (modified object 100, figure 1B) out of the first storage object, wherein the second storage object depends on the individual or collective properties of the first storage object (col. 3 lines 36-40, i.e., modified object having modified property list 122 including the same properties on border size font and text size as the original object), and the computer system receiving information that at least one of the individual or collective properties of the one or more first storage objects has changed (figure 1E and col. 3 lines 23-27, difference property list 124 indicates one of the individual or collective properties of the one or more first storage objects 120, including border, text, justification and style, has changed) and that the second object can no longer depend on the individual or collective properties of the one of more first storage object (figure 1E and col. 3 lines 40-45, i.e., each property that was modified contains the new value)...

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See Final Office Action, pp. 2-3. Thus, the Final Office Action equates Young's modified object 100 with claim 8's second storage object, and argues that, since Young's modified object 100 has modified property list 122, Young teaches the creation of a second storage object that depends on the individual or collective properties of the first storage object. Further, the Final Office Action asserts that, since certain properties of original object 100 were modified to obtain modified object 100 such that "each property that was modified contains the new value," Young teaches that the second object can no longer depend on the individual or collective properties of the one or more first storage objects.

However, Appellants point out that, according to Young, the conditions that (1) Young's modified object 100 has modified property list 122 and that (2) "each property that was modified contains the new value" both refer to the same circumstance occurring in Young, namely the circumstance of the modification of the properties of Young's original object 100. *See* Young 3:23-45. Thus, both conditions occur at the same time. Thus, according to the interpretation of Young asserted by the Final Office Action, Young teaches that it is *simultaneously* the case that (1) the second storage object depends on the individual or collective properties of the first storage object and that (2) the second object can *no longer* depend on the individual or collective properties of the one or more first storage objects. Thus, the interpretation of Young asserted by the Final Office Action, leads to a contradiction.

Of course, it cannot *simultaneously* be the case that a given storage object both depends and *no longer* depends upon a given property, set of properties, or any other thing. *In other words, it cannot be the case that the same circumstance occurring in Young counts as both the condition that a given storage object depends as well as the condition that the very same storage object no longer depends upon a given property, set of properties, or any other thing.* Any given circumstance can teach at most either that a storage object depends upon a thing or that it no longer depends upon a thing. The same circumstance cannot logically serve to teach both. Thus, as interpreted by the Final Office Action, Young can teach at most either (1) the limitation of claim 8 that the "second storage object depends on the individual or collective properties of the one or more first storage objects" or (2) the limitation of claim 8 "that the second storage object can no longer depend on the individual or collective properties of the one or more first storage objects," but it cannot logically teach both.

Thus, for at least this reason, Appellants respectfully request the withdrawal of the rejection against claim 8 as well as the withdrawal the rejection against claims 9-11, which are dependent upon claim 8.

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Rejection of Claims under 35 U.S.C. § 103

Claims 1-5, 12-16 and 19-21

Claims 1-5, 12-16 and 19-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,826,600 issued to Russell ("Russell") in view of U.S. Patent No. 6,065,011 issued to Bulusu et al. ("Bulusu"). *See* Final Office Action, pp. 3-5. Appellants respectfully traverse this rejection.

The Proposed Modification of Russell Would Change Russell's Principle of Operation

Appellants assert that the modification of Russell proposed by the Final Office Action would result in an invention that fails to perform the function for which the invention of Russell was designed according to the principles of Russell. Thus the proposed modification runs contrary to the requirements of MPEP 2143.01 (VI), which states that "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious."

As most recently affirmed in the Advisory Action (dated April 22, 2008) (p.3), it is proposed "to modify Russell in having the second storage comprising a component storage object and the computer system choosing the first storage object to be the component storage object . . . ." That this proposed modification of Russell would change Russell's principle of operation follows from the facts that (1) the Final Office Action equates Russell's local object specification 150 with the first storage object of claim 1 and Russell's global object specification 160 with the second storage object of claim 1 (*see* Final Office Action p. 4), and (2) Russell teaches against global object specification 160 comprising local object specification 150. Russell teaches against global object specification 160 comprising local object specification 150 since Russell requires that local identification 152 of local object specification 150 be replaced with global object specification 162 to create global object specification 160. *See* Russell 14: 4-54, especially lines 46-50. Thus, global object specification 160 cannot comprise local object specification 150 since Russell teaches that global object specification 160 fails to comprise *at least some part* of local object specification 150, namely local identification 152. Thus, the invention disclosed in Russell would fail to perform, according to the principles of Russell, the function for which the invention of Russell was designed if Russell was modified such that the first storage object (local object specification 150) was chosen to be the component storage object which the second storage object (global object specification 160) comprises.

Reacting to Appellants' argument given above, the Final Office Action stated:

> . . . Russell clearly teaches to copy all the object properties from each respective local object definition into a set of respective global object properties in newly defined respective set of global object definitions (col. 14 lines 22-28). Thus, the

global object definitions of Russell obviously comprise local object definitions and the claimed invention are taught by the combination of Russell and Bulusu.

See Final Office Action, pp. 10-11. However, the Final Office Action seems to be confusing Russell's object properties 153 and 163 with Russell's object identifications 152 and 162, or the Final Office Action seems to have misunderstood Appellants' argument. Appellants argue that it follows from the fact that Russell's global object specification 160 fails to comprise Russell's local object identification 152 that Russell's global object specification 160 cannot comprise Russell's local object specification 150 since Russell's local object specification 150 comprises Russell's local object identification 152. Thus, even if Russell's global object specification 160 comprises all of Russell's object properties 153, Russell's global object specification 160 would still fail to comprise Russell's local object specification 150 since it still fails to comprise Russell's local object identification 152.

Appellants note that Appellants' argument holds regardless of whatever teachings may be contained in Bulusu. Appellants' point is simply that Russell cannot be modified in the proposed manner regardless of whatever other teachings are to be found anywhere in the prior art.

Thus, for at least the reasons stated above, Appellants request the reconsideration and withdrawal of this rejection against claim 1. Likewise, since independent claims 12, 19, 20, and 21 are rejected for the same reasons as claim 1 (*see* Final Office Action, pp. 6 and 7) Appellants respectfully request the reconsideration and withdrawal of the rejection of claims 12, 19, 20, and 21. Finally, since all remaining rejected claims are dependent upon one of the independent claims 1, 12, 19, 20, and 21, Appellants respectfully request the reconsideration and withdrawal of the rejection against all remaining rejected claims.
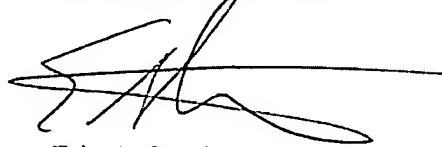

Claims 6-7 and 17-18

Claims 6-7 and 17-18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,826,600 issued to Russell ("Russell") in view of U.S. Patent No. 6,065,011 issued to Bulusu et al. ("Bulusu"), and further in view of U.S. Patent Application No. 2003/0229698 issued to Furuhashi et al. ("Furuhashi"). *See* Final Office Action, p. 7. Appellants respectfully traverse this rejection on the grounds that claims 6-7 and 17-18 are dependent upon one of allowable base claims 1 and 12. Therefore Appellants respectfully request the withdrawal of this rejection.

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CONCLUSION

For the above reasons, Appellants respectfully submits that the rejection of pending Claims 1-21 is unfounded. Accordingly, Appellants respectfully request that the Board reverse the rejections of these claims.

Respectfully submitted,

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CLAIM APPENDIX

1.   (Previously Presented) A method comprising:

a computer system creating a first storage object, wherein the first storage object
        is created to have a property;

the computer system creating a second storage object, wherein the second storage
        object comprises a component storage object;

the computer system choosing the first storage object to be the component storage
        object due to the property of the first storage object;

the computer system modifying the first storage object, wherein the modified first
        storage object maintains the property.

2.   (Original) The method of claim 1 further comprising:

the computer system creating a third storage object, wherein the third storage
        object is created to have a property;

wherein the computer system creates the second storage object out of the first and
        third storage object, wherein the second storage object depends on the
        properties of the first and third storage objects.

3.   (Original) The method of claim 1:

wherein creating the first storage object comprises creating a first description of
        the first storage object

transmitting all or a portion of the first description to a first computer system;

wherein creating the second storage object comprises creating a second
        description of the first storage object;

transmitting all or a portion of the second description to a second computer
        system.

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4.   (Original) The method of claim 3:

wherein modifying the first storage object comprises creating a modified first
description of the modified first storage object;

transmitting the modified first description to the first computer system.

5.   (Original) The method of claim 3 wherein the second description
comprises a configuration map that maps a logical memory block of the second storage
object to a logical memory block of the first storage object.

6.   (Original) The method of claim 1 wherein creating the first storage object
comprises allocating a logical unit (LUN) or a physical storage device of a data storage
subsystem to the first storage object.

7.   (Previously Presented) The method of claim 3 wherein the first
description comprises a configuration map that maps a logical memory block of the first
storage object to a logical memory block of the LUN or to a physical memory block of
the physical storage device.

8.   (Previously Presented) A method comprising:

a computer system creating one or more first storage objects, wherein the one or
more first storage objects are created to have individual or collective
properties;

the computer system creating a second storage object out of the one or more first
storage objects, wherein the second storage object depends on the
individual or collective properties of the one or more first storage objects;

the computer system receiving information that at least one of the individual or
collective properties of the one or more first storage objects has changed
and that the second storage object can no longer depend on the individual
or collective properties of the one or more first storage objects;

the computer system responding after receiving the information.

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9.   (Original) The method of claim 8 wherein the computer responding comprises generating a message indicating that warning that that the second storage object can no longer depend on the individual or collective properties of the one or more first storage objects.

10.   (Original) The method of claim 8 wherein the computer responding comprises replacing the storage object with a new storage object

11.   (Original) The method of claim 8 wherein the computer responding comprises modifying the storage object.

12.   (Original) A computer readable medium storing instructions executable by a computer system, wherein the computer system implements a method in response to executing the instructions, the method comprising:

>   creating a first storage object, wherein the first storage object is created to have a property;
>
>   creating a second storage object out of the first storage object, wherein the second storage object depends on the property of the first storage object;
>
>   modifying the first storage object, wherein the modified first storage object maintains the property upon which the second storage object depends.

13.   (Original) The computer readable medium of claim 12 wherein the method further comprises:

>   creating a third storage object, wherein the third storage object is created to have a property;
>
>   wherein the second storage object is created out of the first and third storage object, wherein the second storage object depends on the properties of the first and second storage objects.

14. (Original) The computer readable medium of claim 12:

wherein creating the first storage object comprises creating a first description of the first storage object;

wherein creating the second storage object comprises creating a second description of the first storage object, and wherein the method further comprises:

transmitting all or a portion of the first description to a first computer system;

transmitting all or a portion of the second description to a second computer system.

15. (Original) The computer readable medium of claim 14:

wherein modifying the first storage object comprises creating a modified first description of the modified first storage object, and wherein the method further comprises:

transmitting the modified first description to the first computer system.

16. (Original) The computer readable medium of claim 14 wherein the second description comprises a configuration map that maps a logical memory block of the second storage object to a logical memory block of the first storage object.

17. (Original) The computer readable medium of claim 13 wherein creating the first storage object comprises allocating a logical unit (LUN) or a physical storage device of a data storage subsystem to the first storage object.

18. (Original) The computer readable medium of claim 17 wherein the first description comprises a configuration map that maps a logical memory block of the first storage object to a logical memory block of the LUN or to a physical memory block of the physical storage device.

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19.   (Previously Presented) A computer readable medium storing instructions executable by a computer system, wherein the computer system implements a method in response to executing the instructions, the method comprising:

    creating a plurality of first storage objects, wherein the plurality of first storage objects are created to have individual or collective properties;

    creating a second storage object, wherein the second storage object comprises a component storage object;

    choosing the plurality of first storage objects to be the component storage object due to the individual or collective properties;

    modifying one or more of the plurality of first storage objects, wherein the modified storage objects maintain the individual or collective properties.

20.   (Previously Presented) A data system comprising:

a computer system in data communication with first and second computer systems, wherein the computer system comprises an instruction memory that stores instructions executable by the computer system, wherein the computer system implements a method in response to executing the instructions, the method comprising:

    creating a first storage object, wherein the first storage object is created to have a property;

    creating a second storage object, wherein the second storage object comprises a component storage object;

    choosing the first storage object to be the component storage object due to the property of the first storage object;

    modifying the first storage object, wherein the modified first storage object maintains the property.

21.   (Previously Presented) A data system comprising:

means for creating a first storage object, wherein the first storage object is created
    to have a property;

means for creating a second storage object, wherein the second storage object
    comprises a component storage object;

means for choosing the first storage object to be the component storage object due
    to the property of the first storage object;

means for modifying the first storage object, wherein the modified first storage
    object maintains the property.

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EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None

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